Please AMEND claims 1, 3, 7, 9, 13, 14, 15, and 16. For the convenience of the Examiner, the recitations of all pending claims 1, 3-5, 7, 9-11, and 13-16 are presented herein below.

1. (FOUR TIMES AMENDED) A RAID apparatus comprising:

a plurality of physical disk units storing a plurality of copies of each of logical volumes; and

a disk controller accessing any of the physical disk units which stores a designated logical volume to thereby access said designated logical volume,

said disk controller including:

a memory storing the number of operations requested to each physical disk unit, for each physical disk unit, and

control means for accessing one of said plurality of physical disk units which stores the designated logical volume, in accordance with said number of operations,

wherein said control means compares numbers of operations corresponding to a plurality of physical disk units which store said designated logical volume with each other, and selects the physical disk unit which has a minimum number of operations,

wherein said control means increments the number of operations of said designated physical disk unit in accordance with a request for said operation and decrements the number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation, [and]

wherein each of said physical disk units performs requested operations in a queued order, and

wherein said memory stores a table indicating a correspondence of the plurality of physical disk units and said logical volume; and said control means refers to said memory with said designated logical volume to select a physical disk unit on which said logical volume is allocated in accordance with said designation of said logical volume by a high-rank apparatus.

3. (TWICE AMENDED) The RAID apparatus according to claim 1, wherein said control means includes:

a channel adapter circuit performing interface control with [a] said high-rank apparatus;

a device adapter circuit accessing said physical disk units in accordance with a requested operation; and

a resource manager circuit determining one of the plurality of physical disk units to be accessed in accordance with said number of operations in said memory in response to a transfer request from said channel adapter circuit, and requesting said device adapter circuit to perform an operation accessing said determined physical disk unit.

4. (AS ONCE AMENDED) The RAID apparatus according to claim 3, wherein said resource manager circuit increments a number of operations of said determined physical disk unit in accordance with the request for said operation and decrements the number of operations of the physical disk unit whose operation has been completed, in accordance with the end of said operation of said device adapter circuit.

5. (AS ONCE AMENDED) The RAID apparatus according to claim 3, wherein said memory stores status information indicating statuses of said physical disk units; and

said resource manager circuit refers to said status information to determine whether those physical disk units which store said designated logical volume are normal and selects a normal physical disk unit.

7. (THRICE AMENDED) An access control method for a RAID apparatus comprising a plurality of physical disk units storing a plurality of copies of each of logical

volumes, and a disk controller accessing any physical disk unit which stores a designated

logical volume to thereby access said designated logical volume, said method comprising:

determining a plurality of physical disk units which store a designated logical volume; and

selecting one of said determined physical disk units in accordance with the number of

operations requested to said physical disk units, said selecting comprising:

comparing said numbers of operations of a plurality of physical disk units which

store said designated logical volumes with each other,

accessing the physical disk unit which has a minimum number of operations,

incrementing the number of operations of said accessed physical disk unit in

accordance with a request for said operation, and

decrementing the number of operations of a physical disk unit whose operation

has been completed, in accordance with an end of said operation,

wherein each of said plurality of physical disk units performs requested operations in a

queued order, and

wherein said selecting further comprises referring to said memory storing a table

indicating a correspondence of the plurality of physical disk units and said logical volume with

said designated logical volume to select a physical disk unit on which said logical volume is

allocated in accordance with said designation of said logical volume by a high-rank apparatus.

9. (TWICE AMENDED) The access control method according to claim 7, wherein

said determining step determines said plurality of physical disk units in response to a transfer

request from [a] said high-rank apparatus; and

said selecting step includes:

requesting an operation for accessing said physical disk unit determined in.

accordance with said number of operations, and

accessing said physical disk unit in accordance with said requested operation.

10. (AS ONCE AMENDED) The access control method according to claim 9, wherein the number of operations of said determined physical disk unit is stored in a memory, and a memory location at which the number of operations is stored is incremented in accordance with the request for said operation and is decremented in accordance with the number of operations of the physical disk unit whose operation has been completed, in accordance with an end of said operation of said physical disk unit.

11. (AS ONCE AMENDED) The access control method according to claim 7, wherein said selecting step includes:

referring to status information to determine indicative of statuses of said physical disk units, stored in a memory, to determine whether those physical disk units which form said identified logical volume are normal; and

selecting a normal physical disk unit.

13. (THRICE AMENDED) A RAID apparatus comprising:

physical disk units storing redundant logical volumes, a first of the redundant logical volumes being stored on one of the physical disk units, and a second of the redundant logical volumes being stored on another of the physical disk units; and

a disk controller counting numbers of operations respectively requested of each of the physical disk units and accessing one of the first and the second of the redundant logical volumes based on a minimum number of the numbers of operation respectively requested of each of the physical disk units,

wherein said disk controller increments the number of operations of an accessed physical disk unit in accordance with a request for said operation and decrements the number of operations of an accessed physical disk unit whose operation has been completed, in accordance with an end of said operation, [and]

wherein each of said physical disk units performs requested operations in a queued order, and

wherein said disk controller refers to a table indicating a correspondence of the plurality of physical disk units and said logical volume with said designated logical volume to select a physical disk unit on which said logical volume is allocated in accordance with said designation of said logical volume by a high-rank apparatus.

14. (TWICE AMENDED) A RAID controller accessing one of a plurality of physical disk units storing a plurality of copies of each of logical volumes to thereby access a designated logical volume, comprising:

a memory storing a number of operations requested to each physical disk unit corresponding to each physical disk unit; and

a controller comparing said numbers of operations corresponding to a plurality of physical disk units which store said designated logical volume with each other, and selecting one of said plurality of physical disk units which has a minimum number of operations,

wherein said controller increments the number of operations of said selected physical disk unit in accordance with a request for said operation and decrements the number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation, [and] wherein each of said plurality of physical disk units performs requested operations in a queued order, and

wherein said memory stores a table indicating a correspondence of the plurality of physical disk units and said logical volume; and said controller refers to said memory with said designated logical volume to select a physical disk unit on which said logical volume is allocated in accordance with said designation of said logical volume by a high-rank apparatus.

15. (TWICE AMENDED) A balancing access method for a RAID apparatus comprising a plurality of physical disk units storing a plurality of copies of each of logical volumes, comprising:

comparing numbers of operations of a plurality of physical disk units which store a designated logical volumes with each other;

selecting one of said physical disk units which has a minimum number of operations;

incrementing the number of operations of said accessed physical disk unit in accordance with a request on said operation; and

decrementing the number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation, wherein each of said physical disk units performs requested operations in a queued order, and

wherein said selecting further comprises referring to said memory storing a table indicating a correspondence of the plurality of physical disk units and said logical volume with said designated logical volume to select a physical disk unit on which said logical volume is allocated in accordance with said designation of said logical volume by a high-rank apparatus.

16. (TWICE AMENDED) A storage medium of a RAID apparatus storing a program, said program comprising:

comparing numbers of operations of a plurality of physical disk units which store a designated logical volumes with each other;

accessing one of said physical disk units which has a minimum number of operations:

incrementing the number of operations of said accessed physical disk unit in accordance with a request on said operation: and

decrementing the number of operations of a physical disk unit whose operation has been completed, in accordance with an end of said operation, wherein each of said physical disk units performs requested operations in a queued order, and